Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously presented): A method for accessing a storage system comprising:

accessing a data object, the data object being divisible into one or more partitions, the partitions comprising data from the data object, the partitions referred to as input partitions; and

for each input partition, if there are no other partitions among other data objects in the storage system that are identical to the input partition, then producing one or more replicas of the input partition.

2. (Original): The method of claim 1 wherein the data object is a file.

3. (Original): The method of claim 1 wherein a first partition is associated with a partition ID, such that another partition having content that is identical to content of the first partition, then the other partition is associated with the same partition ID as that of the first partition, the method further comprising storing partition identification information comprising a plurality of partition IDs, each partition ID being associated with one or more partitions, determining a partition ID of the input partition, accessing the partition identity information to determine if there are any partitions that are identical to the input partition based on the partition ID of the input partition.

4. (Original): The method of claim 1 wherein the data object is to be stored on the storage system, the method further comprising receiving a request to store the data object on the storage system, receiving data comprising the data object, and storing the data object on the storage system.

5. (Currently amended): The method of claim [[7]]1 further comprising, for each input partition, generating a content-based identifier based on at least some content of the input partition and identifying first partitions in the storage system that have the same content-based identifier, wherein the one or more replicas are produced if none of the first partitions is identical to the input partition.

6. (Original): The method of claim 5 wherein the step of generating includes applying a hash algorithm to at least a portion of the content of the input partition.

7. (Currently amended): The method of claim [[7]]1 wherein the data object is a file.

8. (Previously presented): A method for accessing a storage system comprising:

receiving data for a first file, to be stored in the storage system;

providing partition data from the first file which constitutes a first partition of the first file;

if a number of second partitions in the storage system is less than a first predetermined value, then producing a number of replicas of the first partition sufficient to increase the number of second partitions to a second predetermined value, wherein each second partition comprises data belonging to a file in the storage system and is identical to the partition data; and

if the number of second partitions is greater than a third predetermined value and if there are one or more replicas of the first partition, then deleting one or more of the replicas, wherein the number of second partitions is reduced; and

repeating for additional partition data comprising the first file.

9. (Original): The method of claim 8 further comprising receiving a request to store the first file, receiving data comprising the first file, and storing the first file on the storage system.

10. (Original): The method of claim 8 wherein partitions each is identified by a content-based code and a group ID, wherein if data one partition is different from data of another partition and both partitions have the same content-based code, then each partition has a different group ID, whereby partitions that contain identical data are identified by the same content-based code and group ID.

11. (Original): The method of claim 10 further comprising storing partition identity information comprising a content-based code and a group ID that correspond to each partition on the storage system, wherein the first partition is associated with a first content-based code value and a first group ID value, wherein the number of second partitions can be determined by consulting the partition identity information and counting the number of partitions whose corresponding content-based code is equal to the first content-based code value and whose corresponding group ID is equal to the first group ID value.

12. (Original): The method of claim 8 wherein the content-based code is a hash code produced by applying a hash algorithm to content of a partition.

13. (Original): The method of claim 10 further comprising storing partition identity information comprising a hash code and a group ID that correspond to each partition on the storage system, wherein the first partition is associated with a first hash code value and a first group ID value, wherein the step of producing a number of replicas includes adding information which identifies each replica to the partition identity information, including the first hash code value and the first group ID value.

14. (Original): The method of claim 8 wherein the first predetermined value is less than the second predetermined value.

15. (Original): The method of claim 8 wherein the first predetermined value is equal to the second predetermined value.

16. (Original): The method of claim 8 wherein the step of deleting one or more replicas further includes deleting one or more replicas until all the replicas are deleted or until the number of second partitions is less than a fourth predetermined value.

17. (Original): The method of claim 16 wherein the third predetermined value is greater than the fourth predetermined value.

18. (Original): A method for accessing a storage system comprising:

receiving a request to store a file;

storing the file on the storage system;

identifying one or more partitions which collectively constitute the file, the partitions referred to as input partitions;

storing partition information that is associated with the file, wherein the partition information associates the file with each of its input partitions; and

for each input partition, if there are no identical partitions, then

if the number of replicas of the input partition is less than a threshold value, then producing at least one replica of the input partition and storing the replica on the storage system,

wherein an identical partition is a partition, other than the input partition, of a file that is stored in the storage system whose content is identical to content of the input partition.

19. (Original): The method of claim 18 wherein for a first input partition, if there is at least one other file that comprises a partition that is identical to the first input partition, then deleting a replica of the first input partition if the replica exists.

20. (Original): The method of claim 18 wherein for an input partition, the number of identical partitions plus the number of replicas is equal to a predetermined value, the threshold value being the difference between the predetermined value and the number of identical partitions.

21. (Original): The method of claim 18 wherein the partition information associated with the file comprises a partition ID for each input partition, wherein the partition ID comprises a hash code and a group ID, wherein the hash code is determined by applying a hash function to contents of a partition, wherein the group ID identifies a partition whose content is unique among partitions which have the same hash code.

22. (Original): The method of claim 18 further comprising storing information that identifies one or partition groups, a partition group comprising one or more partitions identified from among one or more files which contain identical content, a partition group further comprising one or more replicas of a partition in the partition group.

23. (Original): The method of claim 18 wherein the threshold value is one.

24. (Original): The method of claim 18 wherein the threshold value is a number greater than one.

25. (Original): The method of claim 18 wherein each partition is the same size as other partitions.

26. (Original): The method of claim 18 wherein identifying one or more partitions includes determining a partition size by which the partitions of the file are identified.

27. (Original): The method of claim 18 wherein a partition size of partitions of a file can be different for different files.

28. (Original): A data storage system comprising:

a storage component; and

a data processing component in data communication with the storage component, the data processing component for receiving access requests from users, the access requests for accessing data that is stored in the storage component or for storing data to the storage component,

the data processing component configured to perform the method steps of:

accessing a first partition of a file, the first partition comprising a first portion of data that constitutes the file;

if the first partition does not have a corresponding identical partition in the storage component, then creating at least one replica; and

repeating for a second partition of the file, the second partition comprising a second portion of the data.

29. (Original): The system of claim 28 wherein the data processing component is further configured to perform the method steps of:

receiving a request to store data to the storage system, the request including the data that constitutes the file; and

accessing the storage component to store the data.

30. (Original): The system of claim 28 wherein a partition is identified with a partition ID, the partition ID being based on content of the partition, wherein partitions which contain identical content have the same partition ID,

the storage system further comprising information which is stored in the storage component, each partition having its associated partition identity information, the partition identity information comprising a partition ID its associated partition, wherein partitions that are identical have the same partition ID,

whereby identical partitions can be identified by consulting the partition identity information.

31. (Original): The system of claim 30 wherein the partition ID comprises a content-based code and a group ID, wherein the content-based code is determined from the content of a partition, wherein if one partition and another partition have the same content-based code but have different content, then the one partition is associated with a first group ID and the other partition is associated with a second group ID different from the first group ID, wherein if the one partition and the other partition have the same content-based code and have identical content, then the one partition and the other partition both are associated with the same group ID.

32. (Original): The system of claim 31 wherein the content-based code is a hash code, wherein the hash code is generated by applying a hash function to the content of a partition.

33. (Currently amended): A data storage system comprising:

first means for producing a partition ID for each partition comprising a file stored in the storage system, a partition comprising data from the file, the first means producing a first partition ID for a first partition of a first file;

second means for identifying one or more identical partitions among other files in the storage system based on a first partition ID; and

third means for creating a replica of the first partition in response to the second means making a determination that there are no identical partitions,

wherein the first means, the second means, and the third means operate on every partition comprising the first file.

34. (Currently amended): The system of claim 33 wherein a partition ID comprises a hash code and a group ID, wherein the first means comprising hash means for producing a hash code based on data comprising a partition and group ID means for determining a group ID., ~~wherein~~

35-50. (Canceled)